

Land Use and Environmental Service Agency  
(Code Enforcement)

# Mechanical Q&A 2008

Attention: ✓ Denotes a new question!

★ Denotes a revised/revisited question.

December 2008

Quarter

## General:

- 1) (Q) Does the safety pan have to extend under an electronic filter attached to the furnace or air handler?  
(A) No.
- 2) (Q) Who is responsible for maintaining the clearances on can light electrical fixtures?  
(A) The electrical inspector and the electrical contractor.
- 3) (Q) How should abandoned chimneys be handled?  
(A) Section 501.5 of the Fuel Gas Code requires that they be sealed.
- 4) (Q) Does hydronic piping require a test?  
(A) Yes, per section 1208.1 of the Mechanical Code.
- 5) (Q) What constitutes a "Common Access Area" as it pertains to equipment access?  
(A) Equipment in upfits shall be accessed from within the tenant space or an area accessible to all tenants (i.e. equipment room, hallway, external ladder, etc.) hereto referred as a common access point. This access point shall be determined during the first upfit.
- 6) (Q) Do unlined fireplace flues have to be brought up to Code when the equipment is replaced or is the flue covered under "Existing"?  
(A) Yes, they must be brought up to Code.
- 7) (Q) Does an existing duct system have to be brought up to Code when a furnace is replaced?  
(A) No! Just the furnace and transitions have to meet the Code unless the duct is damaged such that there is significant air leakage.
- 8) (Q) Are mechanical permits required for swimming pool water heaters if there is a gas permit in place?  
(A) Yes, if there is a separate contractor installing the swimming pool water heater. A mechanical contractor who connects the gas piping to the pool heater, and installs any associated flue piping would be considered the contractor of record for the pool heater.
- 9) (Q) Does the required access for floor installation referred to in 306.4 of the NCMC, apply to MP regulators?  
(A) No. The access requirement in the mechanical code only applies to appliances installed under floor. (see definitions)

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10) (Q) Are mechanical permits required for pool heaters if there is a gas piping permit?

(A) Permits are required for all gas appliances and the associated gas piping is installed and inspected under that same permit. A separate gas piping permit is required when there are different contractors performing the work.

11) (Q) What type of license is required to field fabricate a large wine cooler?

(A) the fabrication of the wine cooler does not require a license. The installation of cooling/refrigeration equipment requires a NC Refrigeration license.

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## Duct/Dampers:

- 1) *(Q) What is the proper damper for ceiling penetrations of a fire resistance rated floor/ceiling or roof/ceiling assembly?*  
**(A) Section 607.6.2 of the NCMC (2006) requires a ceiling radiation damper and it shall be installed in accordance with UL555c.**
- 2) *(Q) May a duct connector used as exhaust duct for a bath fan, penetrate a rated floor/ceiling assembly?*  
**(A) Section 603.6.2.2 of the Mechanical Code prohibits connectors passing through walls, floors or ceilings.**
- 3) *(Q) What is the minimum transition length required between an air handler and a duct coil?*  
**(A) A minimum length of 12" is required to help eliminate air turbulence and closing off parts of the coil.**

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## Gas Piping:

- 1) *(Q) What are the requirements for turning gas on to a restaurant hood so the hood installer can complete the performance test?*

(A) Hood test directions are:

- On hoods utilizing gas equipment the hood contractor shall request a “restaurant hood” inspection (RH) and the gas piping installer shall request a “piping service”(PS) and “gas test” (GT) inspection. The restaurant hood inspection will not be performed without the required (PS) & (GT) inspection request! We will accept a request from the contractor listed on the permit only. The hood contractor will be assessed a \$90 fee upon approval of the (RH) inspection.
- On hoods utilizing electric equipment the hood contractor shall request a “restaurant hood” inspection (RH) and coordinate with the electrical contractor to obtain temporary power to energize the cooking equipment prior the performance test.

- 2) *(Q) What requires a test on gas line additions?*

(A) Only the line installed unless there is a change in the pressure.(i.e., 7” to 2 lb, etc.)

- 3) *(Q) Does the required access for under floor installation referred to in 306.4 of the 2006 NCMC, apply to MP regulators?*

(A) No! The access access required in the mechanical code only applies to appliances installed under floor.

Note:

**Definition of an APPLIANCE.** A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirement.

- 4) *(Q) May the cut-off (keyway) be placed just inside the house, on the riser, instead of the outside of the house under the light?*

(A) That would meet the intent of the Code for service purposes.

- 5) *(Q) are bushings allowed in gas piping?*

(A) They are only permissible in steel piping materials installed in visible locations.

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## Equipment:

- 1) (Q) *The Code requires permanent ladders and access to equipment installed at heights exceeding 16 feet. What is the minimum access opening for a designer choosing to access equipment on a roof?*  
(A) The access opening shall be the same dimensions as the access hatch but in no case less than 24" X 24".

- 2) (Q) *Does an MP regulator located in an attic, require a catwalk for access?*

(A) No! Section 306.3 of NCFG (2006) requires assess and catwalks for appliances.

Definition from Chapter 2:

**APPLIANCE (EQUIPMENT).** Any apparatus or equipment that utilizes gas as a fuel or raw material to produce light, heat, power, refrigeration or air conditioning.

- 3) (Q) *What are the rules for water heaters installed in a laundry?*  
(A) The contractor must account for all combustion air requirements for any gas appliance located in the laundry room as well as the exhaust make-up air for the dryers drum. The water heater must be fully accessible for service, repair an/or replacement without removing any appliance.

- 4) (Q) *How may a condensate line terminate in a dual throat washing machine box?*

(A) The condensate line may terminate directly over (centered) one side of the dual opening or may extend down into one of the openings.

- 5) (Q) *When would G.S. 143-138(b), Industrial Equipment Exemption to the Building Codes, apply to the Mechanical Code?*

(A) The industrial equipment exemption does not generally apply to mechanical equipment or systems. The general statute states:

*For the purposes of this paragraph, 'industrial machinery' means equipment and machinery used in a system of operations for the explicit purpose of producing a product. The term does not include equipment that is permanently attached to or a component part of a building and related to general building services such as ventilation, heating and cooling, plumbing, fire suppression or prevention, and general electrical transmission.*

**Mechanical Equipment that serves the industrial process only and does not impact the occupied environment may meet the exception.**

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### Equipment continued:

The owner or his representative shall make a formal request in writing, including all supporting documentation. The Mechanical Chief or his designee shall make a determination whether the request is applicable or not.

- 6) (Q) *Does a contractor have to uncover walls or ceilings to assure proper installation of existing condensate removal piping when replacing existing HVAC equipment?*

(A) No! The assumption is that systems that were previously permitted and inspected meet all aspects of the Code. We do not second guess previous installations unless we know that the installed system was never permitted or inspected.

- 7) (Q) *What does the Code require for the replacement of existing equipment damaged due to flooding, when equipment was previously installed in a flood plain?*

(A) The existing equipment replacement needs to meet the requirements of the Code that it was installed under. The raising of equipment above the flood plain mark does not apply. However, there may be regulations of other agencies that may be applicable.

- 8) (Q) *May flammable vapor resistant (FVR) water heaters be installed directly on a garage floor?*

(A) They must be installed so the ignition sources are 18 inches above the floor.

- 9) (Q) *Where should the secondary condensate drain from wall hung units (no secondary safety pan) be discharged?*

(A) Drain shall discharge to a conspicuous location or use an easy trap as an alternative method.

- 10)✓ (Q) *Does equipment installed in a sealed crawlspace, require a safety pan be placed under the equipment?*

(A) There is nothing in the Code that would require the pan though it would be advantageous to keep moisture out of the crawl space.

- 11)✓ (Q) *May ducts or piping penetrate the elevator shaft?*

(A) No.

- 12)✓ (Q) *May Ducts or piping penetrate the elevator equipment room?*

(A) Yes provided they serve the elevator equipment room and NO OTHER portion of the building.

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## Exhaust Systems/Flues :

- 1) (Q) *Is there a minimum size for clean out doors located in a grease exhaust duct?*  
(A) Yes, It is 12" x 12". (See section 506.3.9)
- 2) (Q) *What constitutes a "non-combustible" wall as referenced in 507.9 of the NCMC (2006)?*  
(A) Sheet rock attached to metal studs. No plastic plumbing piping or wiring not in metal conduit within cavity.
- 3) (Q) *May bath fan or residential dryer exhaust terminate in a breezeway running through a structure?*  
(A) No. Exhaust must terminate outside the building or structure.
- 4) (Q) *The Code references "Outside of the building or structure" when terminating exhaust ducts. How do you determine the outside of the structure?*  
(A) Mecklenburg County uses the roof edge as viewed from above the structure.
- 5) (Q) *May different tenant spaces share the same grease exhaust duct system?*  
(A) Only in the food court areas of structures like a mall where the owner is the mall and the individual businesses more like sublet spaces.
- 6) (Q) *Where may condensate generated from the burning of gases (Propane/Natural), typically collected in flue piping, be discharged?*  
(A) To an approved waste receptor as defined by the NC Plumbing Code. Safety pans for HVAC or water heaters are not waste receptors.
- 7) (Q) *What are the requirements for using the building hvac system to meet part of the make-up air requirements for a restaurant kitchen exhaust hood?*  
(A) The design shall be verified by the test and balance professional to assure there are no negative pressures, all other exhaust systems are not affected and the electrical interlocking of the building hvac system providing the make-up air and the restaurant hood.
- 8) (Q) *Where should domestic dryer exhaust discharge?*  
(A) To the outside of the structure. The outside is determined as the outside edge as viewed from above.

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### **Exhaust Systems/Flues continued:**

- 9) (Q) *What is the proper procedures for installing a vent on a microwave or range hood?*  
(A) Per the manufacturer's installation instructions while avoiding designs that would trap grease.
- 10) (Q) *may contractors install zero clearance duct wrap on a portion of grease exhaust duct having a clearance issue?*  
(A) No! The use of zero clearance wrap like Pyroscat or Firemaster are approved as an alternative method only if they are installed on the entire grease exhaust duct system from hood to the termination.
- 11) (Q) *May B-vent be used as dryer exhaust?*  
(A) No! It is not listed for positive pressure or moisture laden environments.
- 12) (Q) *may B-vent from an appliance exhaust come in contact with flex duct or ductboard?*  
(A) No! The Code requires a 1 inch clearance to combustible material.
- 13)✓ (Q) *Would an existing grease hood be required to have a new hood performance test performed if a different restaurant occupies the space?*  
(A) Yes, the quantity of equipment, the cooking processes and equipment heat plums play a big part in whether a hood captures the smoke and grease laden vapors. What worked for one restaurant may not work for another.



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